UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

July 29, 2005

Kenneth Myers
Federal Highway Administration
Virginia Division
P.O. Box 10249
400 N. 8th Street Room 705
Richmond, Virginia 23240

Subject: Southeastern Parkway and Greenbelt (SEPG) Location Study, Draft Environmental Impact Statement (DEIS). CEQ # 20050221

Dear Mr. Myers:

In accordance with the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) offers the following comments regarding the Southeastern Parkway and Greenbelt (SEPG) Location Study Draft Environmental Impact Statement (DEIS). The SEPG is a proposed 4 to 8-lane highway facility that would connect Route 264 in Virginia Beach to I-64 in Chesapeake, Virginia.

Transportation modeling for this project indicates that traffic congestion and restrictions on mobility are present today and will continue into the future. The SEPG is proposed to provide a new east-west freeway link to serve future traffic volumes, and provide a new link between residential and employment centers in the study area. The alternatives presented for detailed study in the current DEIS are basically the same alignments EPA reviewed in previous NEPA documents in 1989 and 1994, with several notable exceptions. The design concept no longer includes HOV or mass transit elements that were important transit and environmental components during earlier studies when a consensus on the design features was reached. Additionally, the compensation package developed to mitigate the significant wetland impacts in the previous NEPA documentation is no longer included in the current DEIS.

According to the current DEIS, the preferred alternative will directly impact 243 acres of wetlands, 180 acres of upland forest, and require the relocation of approximately 153 families and 13 businesses - affecting 16 neighborhoods. With respect to the project's impact on wetlands, SEPG crosses several important river/wetland ecosystems in Virginia Beach and Chesapeake. As outlined in the attached comments, EPA firmly believes that the North Landing River ecosystem contain very high value wetlands.

The direct impact to (the DEIS indicates that between 214 and 249 acres of wetlands would be directly impacted depending on the alignment selected), and the fragmentation of these wetlands would represent an irreplaceable loss of these unique and valuable resources. Multiple ecological functions ranging from flood storage and water quality enhancement to wildlife migration, feeding and breeding habitat would be degraded due to the loss and fragmentation of this habitat. It would also lead to numerous adverse affects for the diverse plant and animal communities present. Fragmentation effects imply that the value of the remaining habitat also is diminished. In addition, the increase of impervious surfaces due to highway construction will cause environmental impacts that include increased stormwater runoff, reduced water quality, higher maximum summer temperatures, degraded and destroyed aquatic and terrestrial habitats, and the diminished aesthetic appeal of streams and landscapes. The SEPG is also likely to contribute to indirect impacts to these aquatic resources from increased development pressure both within the study corridor and in the undeveloped southern watersheds of Virginia Beach and Chesapeake.

EPA is concerned about the lack of adequate detail regarding a proposed mitigation plan found in the current DEIS, which will be required as part of the Clean Water Act (CWA) Section 404 permit review. In addition, many mitigation sites that were included in the consensus package in 1994 have been lost or are in the process of being developed for commercial and residential use. Although a final mitigation plan will be disclosed in the FEIS, the mitigation discussion in the DEIS lacks the specificity that would be appropriate at this point, given the extent of the impacts. We are concerned that the lack of specificity in the DEIS regarding the scope of compensatory mitigation weakens the overall mitigation discussion and may lead to less than adequate compensatory mitigation needed to offset the large project impacts. From the mitigation discussion in the Natural Resource Technical Report, and after consideration of typical replacement ratios, it appears that approximately 224 acres of wetland restoration coupled with approximately 2,240 acres of wetland preservation may be necessary to offset anticipated project impacts.

EPA believes a clear articulation of the scope and commitment to compensatory mitigation must be included in the FEIS. In addition to further defining the mitigation necessary for this project, EPA requests that the improved no-build alternative (equivalent service) be fully evaluated in the FEIS against the alternatives that were brought forward for evaluation in the DEIS. We base this request on the large impacts to aquatic resources of the SEPG and the relatively modest incremental traffic benefit of the SEPG when compared to the improved no-build alternative.

As discussed above and expanded upon in the supporting technical comments attached, EPA believes the wetlands impacted by the SEPG are locally and nationally significant and are very highly valued wetlands. EPA believes that the SEPG may have an adverse impact to these wetland resources and that these impacts may be avoidable. The unavoidable impacts must be fully mitigated. Therefore, EPA rates the SEPG as Environmentally Unsatisfactory (EU). We rate the document Category 2 (Insufficient Information). A copy of our EIS rating criteria is enclosed for your reference.

EPA appreciates the opportunity to provide comments on the DEIS for the SEPG project and would be pleased to discuss any of the comments and suggestions presented in this letter and attachments. Please feel free to contact either William Hoffman, Chief of the Environmental Programs Branch, at (215) 814-2995 or Peter Stokely, principal staff contact, at (703) 648-4292.

Sincerely,

Donald S. Welsh
Regional Administrator

Enclosures

EPA Supporting Comments SEPG July 2005:

Background:

The first DEIS for SEPG was released in 1989; the Environmental Protection Agency rated the document EU-3. The rating was based on the projected direct impacts to wetlands, endangered species and other habitat and the potential secondary impacts to these resources from induced growth. After the release of the DEIS in 1989 EPA, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers worked extensively with VDOT to develop a permittable project. This included numerous working group meetings and issue papers intended to address the wetland and habitat impacts and the scope of mitigation needed to offset the impacts. One result of that process was a consensus mitigation package that was intended to address both the direct and cumulative impacts of the SEPG.

EPA rated the follow-up 1994 SDEIS EU-2. The EU-2 rating was based on the magnitude of direct and secondary impacts to wetlands and the lack of a clear commitment to compensatory mitigation in the draft document stage.

Aquatic Resources

<u>Watershed Context, and the national importance of the North Landing River:</u>

The SEPG crosses the headwaters of several important river ecosystems in Virginia Beach and Chesapeake, Virginia. The greatest impacts would occur to extensive wetland headwater ecosystems associated with Stumpy Lake, Gum Swamp, and West Neck Creek. These headwater ecosystems provide important ecosystem functions to not only Virginia but the North Landing River and North Carolina's Albermarle-Pamlico Sound, the second largest estuary in the United States and part of the National Estuary Program.

EPA believes the wetlands associated with the North Landing River and West Neck Creek are very high value wetlands. This is supported by the rare plant communities found, the sheer size and diversity of the system, the many functions these wetlands provide to the Albermarle-Pamlico Sound, and the recognition of the significance of the area by state and federal agencies as well as private conservation agencies such as The Nature Conservancy (see Appendix 1 for detailed supporting information).

The State of Virginia conservation agencies also recognize the importance of the North Landing River wetlands. The Virginia Department of Conservation and Recreation (VDCR) owns land along the North Landing River and has determined that this preserve harbors more rare plants, animals and natural communities than any place east of the Blue Ridge in Virginia.

Additionally, local government programs recognize the value of the North Landing River ecosystem and have targeted wetland restoration efforts to build on already protected and important wetland sites. To protect natural resources, sensitive

lands, and water supplies, the cities of Chesapeake and Virginia Beach, in partnership with the Hampton Roads Planning District Commission and the Virginia Coastal Program, initiated the Southern Watershed Area Management Program (SWAMP) in 1994.

The North Landing River is a tributary to a National Estuary. Downstream from the SEPG is the Albermarle-Pamlico National Estuary (APNE), which is part of the National Estuary Program. The functions that the North landing River wetlands provide not only accrue in Virginia but likely spread all the way to the Albermarle-Pamlico National Estuary.

The recreational value of these wetlands cannot be overlooked. The North Landing River has several public access points, state parks and preserves open to the public. Here boating, fishing and bird watching are locally important pursuits. The clean waters and remote and peaceful nature of North Landing River offer unprecedented opportunities to explore nature in an unspoiled state. Tens of thousands of acres of land along the North Landing River are set aside for these and other uses by the State of Virginia, Virginia Beach and The Nature Conservancy.

Clearly the wetland ecosystem crossed by the SEPG is recognized and highly regarded by local, state and federal agencies. The North Landing River wetlands are unique, biologically rich and recreationally important. EPA firmly believes the wetlands of the North Landing River are very high value wetlands and deserve protection from adverse impacts that may result from the construction of the SEPG.

Study Area Aquatic Resources

Gum Swamp is the head waters and northern most extent of the North Landing River wetland complex. It begins where the proposed SEPG crosses the base of Stumpy Lake in Chesapeake Virginia. Gum Swamp then extends as a largely continuous riparian complex to the North Landing River, which as mentioned, extends all the way to North Carolina and the Albermarle-Pamlico Sound. South of the Gum Swamp crossing is the 4,150 acre Gum Swamp Natural Area.

The largest unbroken wetland tract in the study area surrounds Stumpy Lake. Approximately 5,000 acres remain in this area. Stumpy Lake itself is a large open water lake fringed by bald cypress and water tupelo trees, with extensive forested wetlands to the north, west, and south. The lake supports large and diverse populations of water fowl, including great blue herons, great egrets, mallards, black ducks and wood ducks. Bald eagles have been observed here. The Stumpy Lake wetlands drain to and are contiguous with the large North Landing River wetland complex.

Birds found in and around Stumpy Lake include great blue and black crowned night heron, the horned owl, red shouldered hawk, downy, red bellied and palliated wood peckers, warblers, wrens, chickadees, sparrows, titmice, juncos, kinglets, egrets, nuthatches, and towhees. Wildlife found includes the river otter, grey fox and many other

common wildlife species.

Two miles to the east of the North Landing River is West Neck Creek with large tracts of seasonally saturated forest. South of the proposed SEPG crossing is the 1,610 acre, Upper West Neck Creek Natural Area. West Neck Creek is a tributary to the North Landing River and forms the eastern branch of the larger North Landing River complex.

Each of these unique wetland areas include stands of old growth cypress-tupelo and bottomland hardwood swamp, including several ancient and large bald cypress that are in the path of SEPG. The wetlands support neo-tropical migratory birds, raptors and other wildlife resources. They have been recognized as significant natural areas by the Virginia Department of Conservation and Recreation (Clampitt Rt. al., 1993). Together, the wetlands directly in the path of the SEPG are large, relatively intact biologically diverse and contribute to the overall ecosystem processes and health of the locally and nationally important North Landing River ecosystem.

Based on the size, condition, biological diversity and the important ecosystem functions these wetlands provide in Virginia and to the Albermarle-Pamlico Sound, a National Estuary, EPA firmly believes that the wetlands that will be directly impacted by the SEPG are very high value wetlands and require protection from adverse impacts that may result from the construction of the SEPG.

Potential Impacts to Aquatic Resources

Direct Impacts:

As indicated previously, the SEPG will cross several wetland and water resources EPA believes are very high value, including Stumpy Lake, Gum Swamp, and West Neck Creek. These wetlands all are part of the aforementioned, nationally important, North Landing River wetland ecosystem.

The SEPG crosses the top of Gum Swamp and will irreversibly sever Gum Swamp from Stumpy Lake and surrounding wetlands. The fragmentation of the Stumpy Lake, Gum Swamp, and the West Neck Creek Natural Areas by SPEG would represent an irreplaceable loss of these unique and valuable wetland ecosystems. Multiple ecological functions, ranging from flood storage and water quality enhancement to wildlife migration, feeding, and breeding habitat would be lost or impaired. Habitat fragmentation would lead to numerous adverse effects for the diverse plant and animal communities present (Harris, 1984; Keller et. al., 1993; Lynch and Whigham, 1984; Robbins, 1979; Terborgh, 1989; Wilcove, 1985). Habitat loss is considered a leading ecological risk in mid-Atlantic (U.S. EPA Comparative Risk Project).

While bridging may reduce some of the hydrologic impacts to the main channel of West Neck Creek and Gum Swamp, bridging these systems will not eliminate the ecological and water quality impairment from the SEPG. Even with bridging, a new or significantly enlarged (in the case of Gum Swamp) 4-8 lane high traffic corridor will

greatly impact the wildlife habitat, wildlife movement, water quality and the ecological composition of the area. As noted in Table 4-21 of the DEIS, bridging provides only an approximate 10% reduction in wetlands impacted by direct fill.

Fragmentation of intact ecosystems will result in the direct loss of habitat in the roadway corridor and negative effects to wildlife, neo-tropical migratory birds, and species diversity will be felt in the corridor and beyond. Roadway noise, daylighting of interior wooded areas and the introduction of edge and exotic plant and animal species is likely to further degrade the quality of the wetlands crossed by the SEPG.

The preferred alignment has been adjusted since the DEIS of 1994 to include an approximate mile long stretch of road that runs parallel with and directly adjacent to Gum Swamp (the alignment in 1994 crossed Gum Swamp perpendicularly). This long parallel alignment will effectively cut off or degrade the interaction of Gum Swamp with its adjacent uplands, wetlands and Stumpy Lake and add a long parallel high volume highway adjacent to and through Gum Swamp where currently upland woods, open water and adjacent wetlands exists. After crossing Gum Swamp the SEPG crosses through 9000 additional feet of wetlands adjacent to Gum Swamp, Stumpy Lake and The Nature Conservancy (TNC) protected lands. Based on the 300 foot wide study corridor EPA estimates the wetland impacts in the area of Gum Swamp alone to be 65-70 acres, an additional 12-17 acres will be impacted at the eastern branch of Gum Swamp with an additional 25-30 acres of impact at West Neck Creek.

Increased impervious surfaces, increased pollutant loads, and increased storm flows from the SEPG will further degrade the quality of habitat and water in the North Landing River and potentially the resources of the Albermarle-Pamilico National Estuary. Current storm water management practices address the higher storm water flows and can result in continued stream degradation from the more frequent smaller storm events. Oil and grease, automobile exhaust, trash and other pollutants from the SEPG will fall directly on or runoff into the waters of Gum Swamp if the SEPG is built.

In order to quantify and document the impacts of the proposed SEPG on fish and wildlife resources, a Habitat Evaluation Procedure (HEP) is being conducted for this project. However the results are not available in this DEIS. The objective of the HEP is to predict potential impacts on selected wildlife species and to riparian, wetland, and terrestrial habitat, and to evaluate various mitigation and compensation alternatives in terms of fish and wildlife habitat. Although the HEP results were not included in this DEIS, the HEP analysis from the SDEIS in 1994 indicates that the study corridor currently contains substantial habitat for both wetland and upland indicator species that will be at risk from the SEPG. Without the completed HEP in the DEIS it is difficult to know the entire mitigation needs for the SEPG.

The direct impacts of habitat fragmentation and the loss of hundreds of acres of wetlands, coupled with the introduction of a major pollutant source, will permanently and adversely impact these very high value wetlands.

Indirect Impacts

The placement of major highway capacity and access points near the southern edge of the developed areas will substantially raise the likelihood of an increased rate of conversion of these nationally important wetlands to other uses. Particularly in the vicinity of the Centerville Turnpike located adjacent to the ecologically rich Stumpy Lake and Gum Swamp. EPA is concerned this will be the first indirect impact of the SEPG as both rezoning and interchange requests have been requested in this area.

The SEPG would contribute to changing landscape patterns both within the study corridor and in the southern watersheds of Virginia Beach and Chesapeake. While the current DEIS does not adequately address the issue of indirect impacts, one can anticipate the land use changes by comparing the existing condition to future land use by comparing Figures 3-6 and 3-8 from the current DEIS. The visual impact from comparing these two maps is significant. The existing land use map shows a relatively undeveloped area in the southern portion of the study area. The future land use map shows that this undeveloped area will be mostly residential by 2026. A comparison of tables 3-2 and 3-3 gives a breakdown of land use categories and their percentage for existing and future conditions. These tables indicate that existing undeveloped, forested, and agricultural land represents 40% of the total land area in the study area (this figure was 42% in 1994), while in future conditions these areas decrease to 9 % of the total land area in the study area. Undeveloped land will decrease by 89%, which translates to more than 12,000 acres of development by 2026. Residential land will expand from 35% of the total to 51% under future conditions.

While the area crossed by the SEPG is already under development pressure, the construction of SEPG is likely to accelerate the rate of land use change, and lead to induced land use change that will impact wetlands, water quality, and health of the North Landing River. The DEIS acknowledges this by indicating that the Transportation Research Board (TRB) states that "there is moderate certainty that substantial land use conversion may be induced adjacent to the facility, primarily at interchanges and along major arterial roads leading to them." (Page 4-63). Several major roads that will intersect the SEPG lead south and eastward. The Virginia Department of Game and Inland Fisheries describes the North Landing River below:

"North Landing and Northwest Rivers may be close in proximity and eventually join in North Carolina, but there are plenty of differences between the two. North Landing, (the larger of the two), contains part of the Intracoastal Waterway, so there's a deep channel for large boats. You can follow the Waterway north to the Elizabeth River, and ultimately, the Chesapeake Bay. Heading south takes you into Currituck South in North Carolina. The river has extensive marshes around it with several small tributary streams, particularly along the western shore. This gives the canoeist plenty of water to explore away from big boats on the river." At present, these large rural areas south of the study area contain 69,000 acres of wetlands, many of them vulnerable to development. The proposed Southeastern Expressway would stimulate additional growth in these areas. The U.S. Fish and Wildlife Service predicts that indirect impacts in southern Virginia Beach will threaten the ecological integrity of the 5,000 acre Back Bay

National Wildlife Refuge (EPA comment letter on the 1994 SDEIS), indicating that the induced growth may actually occur outside the study area.

The 1994 SDEIS did a more thorough examination of indirect effects (see pages 4-95 through 4-107 of the 1994 SDEIS). One product from the 1994 SDEIS was an inventory of environmentally sensitive lands that would be used as a tool for the identification and potential preservation of these lands. This would be useful information to include in the current DEIS. A thorough discussion of how this information may help select mitigation sites and strategies should be included in the mitigation section of the FEIS.

The DEIS lists city policies on growth, land use recommendations and other programs that could mitigate to some extent the impacts of the SEPG. However, there is no discussion of how these will be linked to the SEPG or how they will be used to guide mitigation efforts or look for mitigation that meets the goals and objectives of these other programs. This should be part of the overall discussion on mitigation strategy.

Cumulative Impacts

Although the DEIS lists known, reasonably foreseeable projects there is no analysis of the impacts of these projects. However considering the potential land use conversions addressed above, and the specific projects listed in the DEIS, it is clear that future wetland loss in inevitable and will likely be stimulated by the SEPG.

This potential future conversion of wetlands is additive to the historic loss of wetlands in Virginia. Data from the U.S. Fish and Wildlife Service indicates that from 1982 to 1989 Virginia experienced a net loss of more than 18,000 acres of wetlands. This continues a pattern reported earlier for the 1956-1977 period (Tiner, 1988), during which Virginia lost nine percent of its inland forested wetlands. Most of these losses occurred in the Lower Coastal Plain, which is where the proposed project is located. Non-tidal forested wetlands such as those threatened by the SPEG are the most rapidly disappearing wetland type in the mid-Atlantic States (Tiner and Finn, 1986). Construction of the SPEG would contribute significantly to this undesirable trend.

Summary of Impacts

The direct, indirect and cumulative impacts as outlined above are significant and should be avoided. As outlined in the traffic benefits discussion below, EPA believes that additional evaluation of an avoidance alternative, the equivalent service no-build alternative, should be included in the document. This alternative has the potential to significantly reduce aquatic resource impacts while providing comparable traffic benefits to the SEPG. Without a detailed evaluation of this alternative it is unclear whether it is a practicable solution to meet the traffic needs of the study area.

Mitigation

The FEIS should be expanded to include a more thorough discussion of the magnitude, goals, and objectives of the compensatory mitigation strategy. The discussion should relate the impacts such as direct loss, fragmentation, and wildlife loss with the goals of the mitigation plan. Included should be maps showing the mitigation search area overlaid with the various criteria and data used to guide the search. Target mitigation acreages and type should be included.

The scope of the mitigation plan is not articulated in the detail necessary to understand if the mitigation plan will be carried through and if it will offset both the direct and indirect effects of the SEPG. Considering the degree to which wetlands will be impacted by this project, EPA suggests that the DEIS include a more thorough discussion of potential mitigation for these wetlands. The failure to adequately scope out and commit to mitigation is a significant concern. The best mitigation sites may not be available and there is no information or assurance VDOT is pursuing the best sites identified in the previous working group meetings.

The DEIS states:

> "The comprehensive mitigation plan will be developed using a suite of site selection criteria that includes consideration of size of potential mitigation sites, location within appropriate watersheds, connectivity within an existing conservation corridor, and compatibility with local land use plans including the Southern Watershed Area Management Plan and the Multiple Benefits Conservation Plan. Using the standard mitigation ratios, below, approximately 448 acres of Palustrine wetland mitigation would be required for the Preferred Alternative. The cooperating agencies have indicated that this amount of mitigation could be provided in the form of 1:1 restoration of prior converted croplands plus approximately 10:1 preservation of existing Palustrine forested wetland. A more specific wetland compensation plan will be provided in the Final EIS for the project."
>
> "General locations of potential wetland compensation areas include:
>
> An area west-southwest of Stumpy Lake
> An area west of Gum Swamp, south of Elbow Road
> Areas along North Landing River, north and south of Elbow Road
> Areas along West Neck Creek, south of Dam Neck Road
> Areas along Northwest River."

Using the discussion above it is possible that approximately 224 acres of wetland restoration and upward of 2240 acres of preservation may be required. The DEIS does not make a specific commitment to achieve this level of compensatory mitigation. In addition, EPA is concerned that the 224 acres of suitable Prior Converted (PC) lands may not be available for restoration. Many restoration efforts have already used up the best (wettest) PC cropland, leaving only the drier and more difficult to restore cropland.

Since this project involves the direct loss of hundreds of acres of wetland and terrestrial habitat with thousands of acres of potential indirect impacts, the mitigation plan has been of critical concern to the resource agencies. In order to acknowledge this concern, the agencies agreed upon addressing mitigation on a general level in the 1994 SDEIS. Section 5 of the 1994 SDEIS discusses three components of mitigation: 1) compensation for direct wetland impacts, 2) control of indirect effects, and 3) preservation of the Stumpy Lake area.

EPA believes this comprehensive approach to mitigation, which was the basis for the general consensus reached during the 1994 SDEIS for the SEPG, was not included in the DEIS and should be included in the FEIS.

Compensation for Direct Wetland Impacts

The DEIS speaks of compensating for wetland losses at standard ratios. The purpose of conducting the HEP analysis for Southeastern Expressway was to provide a scientific basis for evaluating mitigation needs. The HEP results should be used rather than standard ratios for developing mitigation proposals. EPA expects that a detailed HEP discussion will be included in the FEIS combined with a mitigation plan that uses the results of the HEP to develop compensatory mitigation for the unavoidable impacts associated with the SEPG. Given our concerns regarding the extremely large direct impacts of the SEPG and that a build alternative that sharply reduces these impacts is not likely to be found, VDOT should also focus on the compensatory mitigation package as the last method to bring this project in compliance with the Section 404 (b)(1) guidelines. EPA suggests that the HEP be part of the mitigation package.

Minimization of Indirect Effects

The DEIS lists a variety of growth management and environmental protection and restoration measures (page 4-80). However the DEIS does not indicate how VDOT will contribute to these measures nor does it contain a commitment to mitigation measures as a method to minimize indirect effects.

Four natural areas are identified by the Virginia Department of Conservation and Recreation as potential Natural Areas due to their unique ecological importance in the 1994 SDEIS (page 3-55 and Figure 3-17). EPA recommends that the FEIS should discuss these sites, and if they are still available and if unprotected, target them for mitigation.

Figure 4-29 of the 1994 SDEIS identifies a large crescent of environmentally sensitive habitat extending east along the Albemarle-Chesapeake Canal, south along the North Landing River, and west along the Northwest River to its headwaters in the Dismal Swamp. Much of this habitat is privately owned and in need of additional protection, and in some cases, restoration or enhancement. EPA recommends that the mitigation portion of the FEIS should address this area and propose concrete measures for its protection.

Preservation of Stumpy Lake Area

The last component of the previous mitigation plan that led to federal agency consensus included preserving land around Stumpy Lake. We fully endorse preservation of this area as this is the largest unbroken wetland tract in the study area encompassing approximately 5,000 acres of wetlands. However, the mitigation section does not include a commitment to any given level of mitigation or location. Given the ecological value of this large, unbroken tract around Stumpy Lake, EPA recommends that VDOT take concrete measures to preserve this area.

Air Quality Comments:

The proposed project has been included in the latest regional conformity analysis for the 8-hour ozone standard, and has demonstrated conformity for the entire non-attainment area. Therefore there are no current issues related to conformity. It should be noted that the conformity analysis for the region, including this project, will have to be re-evaluated once the final project location is selected. This re-evaluation should include the final length, number of lanes, intersections and Vehicle Miles Traveled projections for the selected project alignment. This may be done during their regular conformity process cycle.

The CO hot spot analysis methodology and approach used is acceptable for this type of location study, with appropriate assumptions used for the modeling. However, after a final alternative is selected, a more detailed analysis for potential CO hot spots must be done. This more detailed analysis, should examine specific locations with potential receptors, i.e. residential structures, schools, local businesses, or certain geographical conditions that may exist. Specific locations for this analysis may include depressed or low lying areas which abut the new highway (at intersections and interchanges) or where potential high volumes of traffic may occur, or where a congested flow of traffic may occur during certain times of the day.

Environmental Justice

There appears to be the potential for disproportionate impacts upon minority and low-income/below poverty level communities based upon the information provided. It appears that there are significant areas of overlap between minority and low-income/below poverty level communities inside the study area. It may be useful to provide more detail regarding the impacts on the various communities and the demographic make up of those communities.

Of the potential business displacements, what percentage would impact minority business owners?

In reviewing the information provided on Household Displacements, it appears that there are a very significant number of minority household displacements proposed for all of the alternatives. The percentage of minorities to potentially be displaced seems

to greatly exceed the minority percentages for the City of Virginia Beach and the City of Chesapeake. Is there a possibility that there may be a significant impact related to these household displacements? Information in Table 4-3 relates to Census Blocks Crossed by Candidate Build Alternatives. However, it seems that a more careful look needs to be taken at the study area as a whole. It should also be noted that Table 4-3 lacks data on low-income and below poverty level populations that should be included as a part of this assessment. Please note that Executive Order 12898 refers to Minority Populations and Low-Income Populations.

The Executive Order refers to disproportionate impacts on Minority and Low-income populations. Has thought been given to assessing the potential for there being disproportionate impacts related to noise, air quality, economics, truck traffic, or other direct or indirect neighborhood impacts? It seems that the bulk of the attention is focusing on the displacements, which are a type of impact, but it should be noted that there are other factors that may be cause for concern that may be sources having impact upon the community or neighborhoods within the area of concern. Are these types of factors being taken into account in the assessment? It should be noted that the Environmental Justice portions of the assessment are put in place to assure that all segments of the population receive appropriate consideration, and that the activities being undertaken do not have unintended adverse impacts upon any segment of the population including those who are at greater risk. The Environmental Justice Assessment should take all environmental and other potential impacts into consideration.

Information regarding the Public Participation and Community Involvement Process should be included in this document in the Environmental Justice Section. It should be noted that meaningful community involvement is one of the objectives of the process, and stands as one of the principles of Environmental Justice.

It was very helpful to have both low-income and poverty level information presented in this document. This added information may be used to provide greater clarity and a better understanding of the populations in the study area.

Table 3-1 should include percent minority, percent below poverty, and all other appropriate demographic information at both the county and state levels for comparison. This additional data would have made it easier for the reviewer to assess the potential for disproportionate impacts upon at risk communities. The county and state benchmark values would have provided useful information.

It would also be helpful to see the demographic totals for the combined study area represented in the table. While it is useful to be able to assess information for the Cities of Chesapeake and Virginia Beach individually, it is also helpful to look at the study area as a whole. This data may provide additional perspective that may be of use to the reviewer.

There appear to be a number of Senior Facilities and Subsidized Housing Units in the study area. What are the potential adverse impacts associated with the proposed

plan?

Other Comments

The DEIS contains no color maps and the black and white maps such as 2-11 through 2-13 are indistinguishable, and the maps are not labeled with stream or river names.

Chapter 1

A graphic that shows the future growth trends, existing and future traffic volumes and where the existing and future congested areas and bottle necks are located should be included in the FEIS. A good example of this type of graphic has been developed for the Harrisonburg Southeastern Connector.

Table 1-5 should be labeled *East-West* Journey to Work

Chapter 2

Traffic Impacts:

The traffic benefits were analyzed and compared to five measures of effectiveness; total vehicle miles traveled, vehicle hours of travel under free flow, vehicle hours of travel under congested conditions, total vehicle hours of travel, and average speed under congested conditions. For example, the preferred alignment will improve the five measures of effectiveness by 1.7%, 3.7%, 14.8%, 10.5% and 11.2% respectively. To put actual numbers on these, for example, the average 2026 speed under the no-build condition is 23.7 mph; the preferred alternative improves the average 2026 speed by 3mph, to 26.7 mph.

According to the DEIS the traffic benefits are measurable but relatively modest when compared to the large impacts to wetlands. For example, every mile of SEPG constructed will impact approximately 11 acres of wetlands. Furthermore, EPA notes that the equivalent service improved no build option (widening several existing roads beyond what is planned and programmed) improves one important Measure of Effectiveness (MOE), the average congested speed, to 26 mph. This improvement to congested speed is almost equivalent to the preferred alternative. The other measures of effectiveness are also improved to levels near that of the preferred alternative (Table 2-1). For many of the roadway segments, the LOS is better under the Equivalent Service alternative than with the SEP (compare table 2.2 with table 11 of the transportation technical report). The improved no build option will certainly have less impact to natural resources, including wetlands, and may be a viable alternative, however, the DEIS does not document any impacts to the human or natural environment that may result from the improved no-build option. The equivalent service no-build alternative should be carried forward for detailed study.

AICUZ: Air Installation Compatible Use Zone:

According to the DEIS a Joint Land Use Study is underway between the Cities of Norfolk, Chesapeake and Virginia Beach and the U.S. Navy regarding noise and safety issues around both Navy Air Station Oceana and Fentress Field. More importantly, however, is the fact there is a current moratorium on new large-scale development within the zone and that these land use controls may be made permanent. The AICUZ covers roughly half the SEPG study area. It is unclear what assumptions were used in the traffic model and forecasts regarding trips generated from or trips going to the AICUZ zone and whether the traffic model considered the potential for reduced development in the AICUZ and what effect this would have on the purpose and need. These issues should be fully discussed in the FEIS.

Chapter 3

The DEIS does not include significant discussion of the actual wetland ecosystems the SEPG will cross or the importance of these systems locally and nationally. As outlined above local, state and federal agencies all recognize the significance of these wetlands and have clearly articulated this. The FEIS should contain a more thorough discussion of the importance of wetlands in general and the North Landing River wetlands in particular.

Figure 3-8 Future Land Use does not agree with the City of Chesapeake's officially adopted land use map (adopted March 9, 2005). According to the official land use map, the area south of Stumpy Lake is zoned conservation, not residential as presented in the DEIS.

The DEIS does not include land use or habitat maps for the area south of the study area where potential indirect effects will be felt. The FEIS should expand on this issue.

Chapter 4

As outlined below, the DEIS is generally deficient in the discussion of wetland impacts, indirect impacts and wetland mitigation, which is contrary to the level of effort previously directed to these efforts in the past. Should the Section 404 guidelines be met and the Least Environmentally damaging Practicable alternative (LEDPA) under the section 404 permit requirements selected, mitigation will be a critical factor to offset the impacts if this project is to be permitted. The DEIS should contain as much information on the mitigation plan as is feasible. The FEIS and ROD should provide more details and specific commitments.

Chapter 4 should compare the no-build with each of CBA's for each of the impact types. This is generally not done (see every figure in Chapter 4). The no build alternative is the base line from which the other alternatives are compared. This type of comparison is typical in EIS preparation and is a useful comparison for the public as well as resource agencies

Wetland Impacts:

The DEIS should contain a more robust description of the wetland systems in the study area and how the SEPG will impact them. Additional maps should be included to illustrate the relationship between the CBA's and the overall wetland system. The 1994 SDEIS contains several maps and a discussion of impacts that would be useful in this DEIS. Figure 14 and the discussion on 4-63 through 4-66 in the 1994 SDEIS should be included in the FEIS.

Related to the lack of comprehensiveness in the discussion of wetland ecosystems in general and the North Landing River in particular, the DEIS does not include a discussion of specific wetland impacts in relationship to watersheds or ecosystems.

The DEIS does not provide a detailed or consistent analysis of the potential indirect impacts of the SEPG. There is a narrative discussion of the potential indirect effects at each interchange but no standard methodology was used to quantify the impacts and no summary of the cumulative totals of the potential indirect effects was included. This type of analysis has been performed for The Tri-County Parkway Location Study and was very useful.

The DEIS does not include a summary table or summary discussion of the cumulative impacts to parks by each alternative, simply a park by park assessment. This makes it difficult to assess the cumulative effects of the SEPG on local parkland.

Similarly, the DEIS only lists potential future actions that may impact wetlands but does not provide an analysis or conclusion of the potential cumulative effects to wetlands in or around the study area.

Figure 4-16: the source of the future land use should be cited. The tables and figures are not well documented as to the source of the data or the terms used in the tables and figures. It would be helpful to have both Figures 4-1 and 4-16 side by side in the FEIS for easier comparisons.

Figure 4-19: The wetland impact data in this table does not match the impact data found in the summary table (Table S-2).

Table 4-21: The wetlands to be bridged may be more or less than what is indicated in this table, this should be made clear in the FEIS, and that permitting requirements may increase bridge lengths.

Appendix 1

Aquatic Resource Supporting Information:

The Nature Conservancy

"The North Landing River contains one of the most diverse and unspoiled wetland systems in Virginia. The wetlands cover an area of more than 15,000 acres in the Cities of Virginia Beach and Chesapeake. Although located near the fastest growing city in the Eastern United States, Virginia Beach, the area contains extensive freshwater marshes, pocosins, and forested swamp, and supports 35 rare species. The area also provides important habitat for breeding and migrating waterfowl. The North American Waterfowl Management Plan, through the Atlantic Coast Joint Venture (covering an area from Maine to South Carolina), has identified the wetlands of the North Landing River as a top priority for protection. Preserving the wetlands at North Landing River Preserve has economical benefits. Wetlands act to filter pollutants from water supplies and promote the Virginia Beach nature tourism industry. Preserving the North Landing River area also benefits the species that inhabit it and the people who care about preserving Virginia's biodiversity. Thirty-two rare plants can be found at North Landing River Preserve, including the Elongated Lobelia and sheep-laurel, and twenty plants are at the northern limit of their ranges, such as sawgrass, the dominant grass of the Everglades. The marshes of North Landing River are the most ecologically diverse in the state. For instance, the preserve contains the only example of a pocosin natural community in Virginia (peat bogs dominated by shrub thickets). The wind-tide marshes and long-lived Bald cypress of the North Landing River are home to at least six rare animals including dozens of species of waterfowl such as the Great Blue Heron, Great Egret, and the well-camouflaged Least Bittern, smallest of the world's herons. In fact, one of the state's largest heron rookeries is found here. The North Landing River Preserve is one of the largest expanses of undisturbed freshwater marsh habitat along the entire eastern seaboard. This unusual wetland system provides a habitat for southern species of plants that are rare in Virginia, including sawgrass, an integral part of the Florida Everglades" (The Nature Conservancy).

Virginia Department of Conservation and Recreation

Almost entirely wetland, this preserve harbors more rare plants, animals and natural communities than any place east of the Blue Ridge in Virginia. The preserve is comprised of three separate tracts and is part of a network of protected lands along the North Landing River. A coalition of public and private conservation organizations owns a total of more than 10,000 acres within the watershed. Acquisition of preserve properties was funded by the Virginia Parks and Natural Areas Bond, The Nature Conservancy, the Virginia Department of Environmental Quality's Virginia Coastal Program, Virginia citizen contributions to the Open Space Recreation and Conservation Fund, and state general funds.

This is Virginia's largest natural area preserve. It is almost entirely comprised of

wetland communities, five of which are rare in Virginia. Especially notable is the pocosin community, a habitat type that is fast disappearing from the southeastern United States. Pocosins are characterized by tangled masses of dense shrubs and vines with a scattered pond pine overstory. This unique wetland community and the forested swamps and freshwater tidal marshes of the lower North Landing River support at least 11 rare species of plants and animals. The area also provides important habitat for breeding and wintering waterfowl.

While quite biologically diverse, two simple words sum up North Landing River Natural Area Preserve: lush and wet. Expansive freshwater wind tide marshes, cypress swamps, pocosins and Atlantic white cedar forests are just a few of the wetland communities found along the North Landing River.

Virginia Department of Game and Inland Fisheries

"North Landing and Northwest Rivers may be close in proximity and eventually join in North Carolina, but there are plenty of differences between the two. North Landing, (the larger of the two), contains part of the Intracoastal Waterway, so there's a deep channel for large boats. You can follow the Waterway north to the Elizabeth River, and ultimately, the Chesapeake Bay. Heading south takes you into Currituck South in North Carolina. The river has extensive marshes around it with several small tributary streams, particularly along the western shore. This gives the canoeist plenty of water to explore away from big boats on the river."

Virginia Beach Southern Watershed Area Management Plan (SWAMP)

"The watersheds of the North Landing River, the Northwest River and Back Bay, collectively referred to…as the Southern Watersheds…constitute a unique and sensitive environment, inclusive of coastal primary sand dunes, tidal wetlands, non-tidal wetlands, and sensitive soils. Extensive floodplains and marsh fringes bordering the waterways within the Southern Watersheds provide a unique and valuable habitat[and] has an intrinsic water quality value due to the ecological and biological processes they perform or which occur within them. Much of the land area comprising the Southern Watersheds currently supports forestal, agricultural, recreational, and conservation activities. Any future development must be undertaken in a manner which encourages harmony among development, agriculture, recreation, and conservation." (City of Virginia Beach Southern Watersheds Management Ordinance §2(a), (b) and (c))

The Albermarle-Pamlico National Estuary (APNEP),

The APNEP is part of the National Estuary Program. Some of the information regarding the importance of the area can be found below:

"Within this diverse geographic region is one of nature's most complete and dynamic ecosystems. The sounds, rivers, creeks, wetlands, and terrestrial areas in the

A/P estuarine system support a variety of uses, and we depend on the system to supply food, recreation, jobs, a mode of transportation, and vital habitat for fish and shellfish. In addition, its diverse ecological communities provide a rich natural heritage for humans and wildlife.

Economically, the Albemarle-Pamlico Sounds estuarine system represents the region's key resource base through commercial fishing, tourism, recreation, and resort development. Economic benefits are also derived from uses of the natural resources for mining, forestry, and agriculture." (APNEP)

The APNEP has identified goals for protecting or enhancing the estuary. One that is particularly relevant to the SEPG is to Promote the Responsible Stewardship, Protection, and Conservation of Valuable Natural Areas in the APES Region.

"Preserving natural areas enhances environmental quality and provides socioeconomic benefits. A cooperative effort among many federal and state agencies, private resource and conservation groups, and local land trusts has provided a variety of regulatory and non-regulatory measures that protect habitats. Non-regulatory measures include acquisition, conservation easements, registry and dedication of land as natural areas, technical assistance for conservation, cooperative management agreements and incentives to landowners to maintain, restore, and enhance important natural resources". (APNEP)